

# Mineral Industry Surveys

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## COBALT IN MAY 1999

U.S. imports of cobalt metal and cobalt contained in chemicals were 6% higher during January through April 1999 than imports during the first 4 months of 1998, according to the U.S. Geological Survey. Exports of unwrought cobalt and cobalt contained in chemicals during the first 4 months of 1999 were 34% lower than exports during the same period in 1998. Data for U.S. consumption, stocks, and trade in May 1999 will be available in a subsequent issue.

### Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

### Update

On June 25, the Defense Logistics Agency (DLA), U.S. Department of Defense, announced that it had awarded 307 metric tons (677,000 pounds) of cobalt granules and rondelles at a total value of \$11.5 million. The following companies were awarded cobalt: ABS Alloys and Metals of Mexborough, England, Allied Deals, Inc. of Piscataway, NJ, Glencore Ltd. of Stamford, CT, Phoenix International Resources of Carnegie, PA, and Sogem USA of Raleigh, NC (Defense Logistics Agency, 1999). For further information on DLA's cobalt sales program,

please contact DLA's contracting officer for cobalt, Jennifer Iribarren, at (703) 767-5487.

### Price

Prices for electrolytic cobalt, in dollars per pound, from Platt's Metals Week are listed below.

| <u>Week ending</u> | <u>Price range</u> |
|--------------------|--------------------|
| June 25            | 20.00-21.50        |
| July 2             | 20.00-21.50        |
| July 9             | 20.00-21.50        |
| July 16            | 20.00-21.50        |
| July 23            | 20.00-21.50        |
| July 30            | 19.00-20.00        |

| <u>Month</u> | <u>Average price</u> |
|--------------|----------------------|
| June         | 20.46                |
| July         | 20.50                |

### Reference Cited

Defense Logistics Agency, 1999, Stockpile accepts cobalt offers: Fort Belvoir, VA, Defense Logistics Agency press release, June 23, 1 p.

TABLE 1  
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

| Period      | Industry 2/ |   |       | Total | U.S.<br>Government, 3/<br>metal |
|-------------|-------------|---|-------|-------|---------------------------------|
|             | Metal 4/    | Oxide and<br>other chemical<br>compounds 5/ | Scrap |       |                                 |
| 1998:       |             |   |       |       |                                 |
| May         | 391         | 200   | 110   | 701   | 15,900                          |
| June        | 377         | 192   | 117   | 686   | 15,700                          |
| July        | 351         | 207   | 113   | 670   | 15,400                          |
| August      | 357         | 244   | 95    | 697   | 15,400                          |
| September   | 354         | 250   | 95    | 700   | 14,900                          |
| October     | 327         | 259   | 88    | 674   | 14,900                          |
| November    | 314         | 269   | 83    | 666   | 14,800                          |
| December 6/ | 334         | 291   | 81    | 706   | 14,700                          |
| 1999:       |             |   |       |       |                                 |
| January     | 361         | 229   | 107   | 697   | 14,700                          |
| February    | 355         | 208   | 106   | 669   | 14,600                          |
| March       | 345         | 209   | 107   | 661   | 14,400                          |
| April       | 318         | 196   | 127   | 642   | 14,200                          |
| May         | NA          | NA  | NA    | NA    | 14,100                          |

NA Not available.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Data from Defense Logistics Agency. Includes material committed for sale pending shipment.

4/ Includes metal powder.

5/ Data may include other cobalt materials.

6/ Data based on monthly reports.

TABLE 2  
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

| Period and country<br>of origin | Metals 2/    |                | Oxides and hydroxides |             | Salts and compounds 3/ |               | Total cobalt<br>content for<br>the month 5/ | Cobalt<br>content,<br>year to<br>date 5/ 6/ |
|---------------------------------|--------------|----------------|-----------------------|-------------|------------------------|---------------|---|---|
|                                 | Quantity     | Value 4/       | Quantity              | Value 4/    | Quantity               | Value 4/      |   |   |
| 1998:                           |              |                |                       |             |                        |               |   |   |
| April                           | 694,000      | \$32,600,000   | 114,000               | \$4,110,000 | 99,000                 | \$935,000     | 803,000                                     | 2,840,000                                   |
| May                             | 567,000      | 27,700,000     | 94,800                | 3,490,000   | 237,000                | 2,180,000     | 699,000                                     | 3,540,000                                   |
| June                            | 504,000 r/   | 24,200,000 r/  | 89,100                | 3,170,000   | 61,400                 | 669,000       | 584,000 r/                                  | 4,130,000 r/                                |
| July                            | 487,000 r/   | 22,600,000 r/  | 70,200                | 2,750,000   | 23,700                 | 250,000       | 544,000 r/                                  | 4,670,000 r/                                |
| August                          | 456,000 r/   | 21,200,000 r/  | 96,600                | 3,390,000   | 12,300 7/              | 147,000 7/    | 529,000 r/                                  | 5,200,000 r/                                |
| September                       | 503,000 r/   | 21,900,000 r/  | 109,000               | 3,860,000   | 43,400                 | 438,000       | 594,000 r/                                  | 5,790,000 r/                                |
| October                         | 550,000 r/   | 22,500,000 r/  | 93,400                | 3,120,000   | 172,000                | 1,570,000     | 663,000 r/                                  | 6,460,000 r/                                |
| November                        | 524,000 r/   | 19,200,000 r/  | 155,000               | 4,440,000   | 37,300                 | 397,000       | 645,000 r/                                  | 7,100,000 r/                                |
| December                        | 466,000 r/   | 14,500,000 r/  | 76,000                | 1,950,000   | 174,000 r/             | 2,430,000 r/  | 567,000 r/                                  | 7,670,000 r/                                |
| January-December                | 6,450,000 r/ | 284,000,000 r/ | 1,210,000             | 41,500,000  | 1,310,000 r/           | 13,600,000 r/ | 7,670,000 r/                                | XX  |
| 1999:                           |              |                |                       |             |                        |               |   |   |
| January                         | 605,000      | 16,200,000     | 160,000               | 3,810,000   | 70,800                 | 529,000       | 739,000                                     | 739,000                                     |
| February                        | 528,000 8/   | 12,800,000 8/  | 81,100                | 1,570,000   | 55,900                 | 430,000       | 601,000                                     | 1,340,000                                   |
| March                           | 736,000      | 25,200,000     | 97,400                | 2,650,000   | 33,000                 | 217,000       | 815,000                                     | 2,160,000                                   |
| April:                          |              |                |                       |             |                        |               |   |   |
| Belgium                         | 9,370        | 521,000        | 32,000                | 1,020,000   | --                     | --            | 32,400                                      | 112,000                                     |
| Brazil                          | 40,000       | 1,260,000      | --                    | --          | --                     | --            | 40,000                                      | 98,000                                      |
| Canada                          | 53,800       | 1,830,000      | --                    | --          | 769                    | 17,400        | 54,200                                      | 289,000                                     |
| China                           | --           | --             | 2,650                 | 52,200      | --                     | --            | 1,910                                       | 2,480                                       |
| Congo (Kinshasa)                | 71,300       | 2,560,000      | --                    | --          | --                     | --            | 71,300                                      | 322,000                                     |
| Finland                         | 166,000      | 4,050,000      | 71,400                | 1,840,000   | 61,200                 | 416,000       | 234,000                                     | 722,000                                     |
| France                          | 775          | 62,100         | 7,320                 | 407,000     | --                     | --            | 6,050                                       | 18,400                                      |
| Germany                         | 6,790        | 367,000        | 5,050                 | 151,000     | --                     | --            | 10,400                                      | 26,200                                      |
| India                           | --           | --             | --                    | --          | --                     | --            | --  | 76  |
| Japan                           | 776          | 60,600         | 200                   | 14,300      | --                     | --            | 920   | 3,610                                       |
| Netherlands                     | --           | --             | --                    | --          | 10,300                 | 162,000       | 2,570                                       | 2,570                                       |
| Norway                          | 168,000      | 5,450,000      | --                    | --          | --                     | --            | 168,000                                     | 562,000                                     |
| Russia                          | 80,600       | 2,520,000      | --                    | --          | 6                      | 3,500         | 80,600                                      | 281,000                                     |
| South Africa                    | 1,000        | 24,100         | --                    | --          | --                     | --            | 1,000                                       | 2,010                                       |
| United Kingdom                  | 179          | 28,900         | 10,000                | 236,000     | --                     | --            | 7,380                                       | 92,000                                      |
| Zambia                          | 137,000      | 4,310,000      | --                    | --          | --                     | --            | 137,000                                     | 470,000                                     |
| Total                           | 735,000      | 23,000,000     | 129,000               | 3,720,000   | 72,200                 | 599,000       | 847,000                                     | 3,000,000                                   |

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt sulfates, cobalt chlorides, cobalt carbonates, and cobalt acetates.

4/ Customs value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ Data no longer in question.

8/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census, with adjustments by the U. S. Geological Survey.

TABLE 3  
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

| Period and country<br>of origin | Unwrought<br>cobalt alloys |               | Other cobalt: matte,<br>waste and scrap 2/ |                | Wrought cobalt and<br>cobalt articles |               |
|---------------------------------|----------------------------|---------------|--|----------------|---------------------------------------|---------------|
|                                 | Quantity                   | Value 3/      | Quantity                                   | Value 3/       | Quantity                              | Value 3/      |
| 1998:                           |                            |               |  |                |                                       |               |
| April                           | 17,300                     | \$690,000     | 90,300 4/                                  | \$1,530,000 4/ | 26,400                                | \$1,470,000   |
| May                             | 40,700                     | 1,690,000     | 64,300 4/                                  | 778,000 4/     | 16,800                                | 975,000       |
| June                            | 15,600                     | 689,000       | 42,100 r/                                  | 672,000 r/     | 13,500                                | 836,000       |
| July                            | 15,000 r/                  | 627,000 r/    | 44,300 r/                                  | 560,000 r/     | 22,900                                | 1,290,000     |
| August                          | 28,700 r/                  | 899,000 r/    | 59,100 r/                                  | 729,000 r/     | 11,200                                | 709,000       |
| September                       | 39,700 r/                  | 1,550,000 r/  | 97,100 r/                                  | 1,430,000 r/   | 8,710                                 | 682,000       |
| October                         | 72,300 r/                  | 1,860,000 r/  | 76,700 r/                                  | 667,000 r/     | 8,660                                 | 764,000       |
| November                        | 9,710                      | 629,000       | 250,000 r/                                 | 2,360,000 r/   | 14,900                                | 747,000       |
| December                        | 28,400 r/                  | 1,240,000 r/  | 14,900 r/                                  | 225,000 r/     | 27,700 r/                             | 901,000 r/    |
| January-December                | 315,000 r/                 | 11,600,000 r/ | 857,000 r/                                 | 10,800,000 r/  | 217,000 r/                            | 11,300,000 r/ |
| 1999:                           |                            |               |  |                |                                       |               |
| January                         | 23,100                     | 1,300,000     | 9,610 5/                                   | 535,000 5/     | 18,100                                | 946,000       |
| February                        | 29,400                     | 1,330,000     | 28,900 5/                                  | 826,000 5/     | 13,000                                | 765,000       |
| March                           | 10,600                     | 740,000       | 54,500 5/                                  | 991,000 5/     | 29,200                                | 1,020,000     |
| April:                          |                            |               |  |                |                                       |               |
| Belgium                         | 2,550                      | 78,400        | 11,600                                     | 38,600         | 7,750                                 | 118,000       |
| Canada                          | 79                         | 7,860         | 13,400 5/                                  | 50,000 5/      | 410                                   | 90,100        |
| Finland                         | 65                         | 2,800         | --   | --             | --                                    | --            |
| France                          | 98                         | 14,600        | 7,830 5/                                   | 253,000 5/     | 1,910                                 | 75,400        |
| Germany                         | --                         | --            | 18,500                                     | 196,000        | 626                                   | 54,200        |
| Japan                           | 300                        | 22,200        | 21,700 5/                                  | 523,000 5/     | 1,670                                 | 97,900        |
| Sweden                          | 2,410                      | 64,600        | --   | --             | --                                    | --            |
| United Kingdom                  | 44,900                     | 1,480,000     | 1,100 5/                                   | 85,300 5/      | 3,740                                 | 215,000       |
| Total                           | 50,400                     | 1,670,000     | 74,100                                     | 1,150,000      | 16,100                                | 651,000       |

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ Data no longer in question.

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census, with adjustments by the U. S. Geological Survey.

TABLE 4  
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

| Period           | Unwrought cobalt, powders,<br>matte, waste and scrap 2/ |               | Oxides and hydroxides |             | Salts and compounds 3/ |              | Total cobalt<br>content for<br>the month 5/ | Cobalt<br>content,<br>year to<br>date 5/ 6/ |
|------------------|---|---------------|-----------------------|-------------|------------------------|--------------|---|---|
|                  | Quantity  | Value 4/      | Quantity              | Value 4/    | Quantity               | Value 4/     |   |   |
| 1998:            |   |               |                       |             |                        |              |   |   |
| April            | 101,000   | \$3,680,000   | 64,500                | \$1,290,000 | 35,100                 | \$292,000    | 156,000                                     | 610,000                                     |
| May              | 68,100  | 3,210,000     | 34,900                | 841,000     | 150,000                | 519,000      | 129,000                                     | 740,000                                     |
| June             | 60,800 r/   | 2,860,000 r/  | 56,300                | 1,380,000   | 26,100                 | 238,000      | 108,000 r/                                  | 847,000 r/                                  |
| July             | 97,500 r/   | 4,140,000 r/  | 39,400                | 1,190,000   | 84,000 r/              | 257,000 r/   | 146,000 r/                                  | 993,000 r/                                  |
| August           | 109,000   | 4,660,000     | 52,400                | 908,000     | 32,700                 | 373,000      | 155,000 r/                                  | 1,150,000 r/                                |
| September        | 127,000 r/  | 3,480,000 r/  | 54,400                | 624,000     | 40,700                 | 275,000      | 176,000 r/                                  | 1,320,000 r/                                |
| October          | 49,000  | 2,530,000 r/  | 61,900                | 1,150,000   | 55,100                 | 203,000      | 107,000 r/                                  | 1,430,000 r/                                |
| November         | 64,600  | 2,670,000     | 29,700 r/             | 579,000 r/  | 25,500 r/              | 261,000 r/   | 92,100 r/                                   | 1,520,000 r/                                |
| December         | 118,000 r/  | 3,300,000 r/  | 30,000                | 461,000     | 76,000                 | 281,000      | 158,000 r/                                  | 1,680,000 r/                                |
| January-December | 1,140,000 r/  | 43,400,000 r/ | 533,000 r/            | 11,300,000  | 674,000 r/             | 4,140,000 r/ | 1,680,000 r/                                | XX  |
| 1999:            |   |               |                       |             |                        |              |   |   |
| January          | 25,600  | 1,090,000     | 35,100 7/             | 420,000 7/  | 11,800                 | 96,500       | 53,700                                      | 53,700                                      |
| February         | 56,000  | 2,320,000     | 37,200                | 465,000     | 9,500                  | 93,500       | 85,100                                      | 139,000                                     |
| March            | 78,900  | 3,210,000     | 46,200                | 853,000     | 47,300                 | 338,000      | 123,000                                     | 262,000                                     |
| April            | 105,000   | 3,840,000     | 36,600                | 521,000     | 38,500                 | 377,000      | 141,000                                     | 403,000                                     |

r/ Revised. XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census, with adjustments by the U. S. Geological Survey.

TABLE 5  
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

| Period           | Wrought cobalt and<br>cobalt articles |             | Cobalt ore and<br>concentrates |              |
|------------------|---------------------------------------|-------------|--------------------------------|--------------|
|                  | Quantity                              | Value 2/    | Quantity                       | Value 2/     |
| 1998:            |                                       |             |                                |              |
| April            | 42,700                                | \$3,510,000 | --                             | --           |
| May              | 51,700                                | 1,790,000   | --                             | --           |
| June             | 42,200                                | 2,430,000   | 66,800 r/                      | \$905,000 r/ |
| July             | 22,200 r/                             | 1,730,000   | 25,900 r/                      | 67,600 r/    |
| August           | 122,000                               | 6,260,000   | --                             | --           |
| September        | 170,000                               | 5,910,000   | 454 r/                         | 5,140 r/     |
| October          | 30,400                                | 2,090,000   | (3/)                           | (3/)         |
| November         | 46,300                                | 2,800,000   | 733                            | 47,800       |
| December         | 36,400                                | 2,130,000   | (3/)                           | (3/)         |
| January-December | 667,000 r/                            | 33,900,000  | 128,000 r/                     | 3,500,000 r/ |
| 1999:            |                                       |             |                                |              |
| January          | 24,200                                | 1,480,000   | 31,400 4/                      | 457,000 4/   |
| February         | 45,000                                | 2,460,000   | 14,500 4/                      | 29,500 4/    |
| March            | 80,000                                | 2,050,000   | 76,200 4/                      | 94,300 4/    |
| April            | 54,300                                | 2,410,000   | 434 4/                         | 3,900 4/     |

r/ Revised.

1/ Data are rounded to three significant digits.

2/ Free alongside ship (f.a.s.) value.

3/ Revised to zero.

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census, as adjusted by the Geological Survey.